

## Quick Release Holster

### BACKGROUND

#### TECHNICAL FIELD

5 This invention relates generally to holsters having clips for accommodating a belt, and more specifically to a holster for a firearm or other object that has a quick release mechanism so as to be easily coupled to, and decoupled from, a belt.

#### BACKGROUND ART

Sometimes it may seem as if the world today is an unsafe place. Despite the excellent  
10 efforts of our heroic law enforcement personnel and the strict sentencing guidelines for violent criminals, terrorism, school shootings and domestic violence persist. As a result, more and more law-abiding citizens are applying for weapon permits. With proper training and faithful consideration of safety rules, many people today feel that a personal firearm offers an additional source of protection in the event that a dangerous situation arises.

15 Weapons, like handguns for example, are carried in several different places. For example, women who carry a purse often choose to carry a small handgun in the purse. Specialty clothing may include secret compartments specially designed for carrying weapons as well. By far the most popular way to carry a weapon is by way of a holster. This is the popular choice of law enforcement and citizenry alike.

20 Many holsters available on the market today may be worn on the belt. One such holster is shown in FIG. 1. The holster 1 includes a pocket 2 for holding a weapon, as well as a latch 3, like a snap for example, which prevents the weapon from falling out of the holster 1. The holster couples to a belt by way of holes 4,5. The holes 4,5 serve as the openings of an effective tube formed by the front and rear pieces of leather. A user slips a belt through this tube while lacing  
25 the belt through the belt loops of a pair of trousers. When the belt is buckled, the holster is secured on the user's person.

The problem with this prior art holster, however, is the fact that it is difficult to get on and off. Most states that issue weapon permits place certain limitations on just when and where people may carry their weapons. For example, while carrying a weapon while walking on the  
30 street is lawful, carrying a weapon into a school, an establishment where alcoholic beverages are served, a government building or large public gathering is strictly prohibited. Additionally, some

businesses prohibit firearms on the premises as well. As such, a person who carries a weapon to work must remove the weapon before entering the place of employment. The only way to get the holster of FIG. 1 off is to unbuckle and remove one's belt. This is both cumbersome and time consuming.

5 One solution for this "how do I get it off the belt without unbuckling" problem is shown in FIG. 2. This holster includes a springy, metal clip with a notch. To attach the holster to a belt, one takes a finger and pries the clip up and slips the clip between the belt and body. The clip then springs back into place, and the holster is coupled to the belt.

This solution has two inherent problems, though. The first problem is that the notch of  
10 the clip must pass between the user's body and the belt. As such, while the belt may not have to come completely off, one generally has to unbuckle and loosen the belt to provide enough slack to allow the notch to pass.

The second problem is that unless the area encircled by the clip, notch and holster body exactly matches the cross-sectional area of the belt, the holster can rotate about the belt. In other  
15 words, since the clip is raised off the holster by way of the notch, the holster will be able to slightly rotate on a narrow belt. Such rotation may allow a weapon to fall out of the holster, thereby potentially creating a safety hazard.

There is thus a need for an improved holster having a means of attaching to a belt that is quickly releasable without the need of unbuckling the belt.

20

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a prior art belt holster.

FIG. 2 illustrates a prior art belt holster.

FIG. 3 illustrates a perspective view of one preferred embodiment of a holster in accordance with  
25 the invention.

FIG. 4 illustrates an elevation view of one preferred embodiment of a holster in accordance with the invention.

FIG. 5 illustrates an elevation view of another preferred embodiment of a holster in accordance with the invention.

30 FIG. 6 illustrates a firearm assembly in accordance with the invention.

## DETAILED DESCRIPTION OF THE INVENTION

A preferred embodiment of the invention is now described in detail. Referring to the drawings, like numbers indicate like parts throughout the views. As used in the description herein and throughout the claims, the following terms take the meanings explicitly associated  
5 herein, unless the context clearly dictates otherwise: the meaning of "a," "an," and "the" includes plural reference, the meaning of "in" includes "in" and "on."

Referring now to FIG. 3, illustrated therein is one preferred embodiment of a holster assembly 300 in accordance with the invention. The holster assembly 300 includes a holding member 301 that essentially forms a flexible pocket into which an object, like a handgun for  
10 example, may be placed. The holding member 301 is preferably manufactured from plastic, and may be constructed of any number of materials, including plastics like styrene, ABS, polycarbonate, ABS-polycarbonate. Other materials, including leather, cloth and vinyl may also be used. Experimental testing has shown that Kydex<sup>®</sup>, a plastic manufactured by the Kleerdex Company of Aiken, South Carolina, performs well in that it is flexible, resilient, durable and  
15 easily molded.

The holding member 301 is preferably formed from a single piece of plastic, either by thermal forming or injection molding. The holding member 301 includes curves 302,303 and contours 304-306 designed to be the geometric compliment of the object that is to be placed in the holding member.

20 By way of example, if the object to be placed in the holding member 301 is a Model 19 pistol manufactured by the Glock Corporation, the curves 302,303 and contours 304-306 would be structured such that the inner dimensions of the holding member 301 would be complementary to the configuration of the outer sections of the Model 19 gun. For instance, contour 306 would be complimentary to the shell ejection aperture in the slide of the gun, while  
25 contour 304 would be complimentary to the slide itself.

As stated above, the holding member 301 is preferably manufactured from a single piece of material. One preferred method of manufacture of the holding member 301 is by way of thermal forming. In the thermal forming process, the plastic is heated slightly to become soft and pliable. The sides 307,308 of the holding member 301 are then molded about a positive  
30 mold having contours matching the object. Another equivalent method of manufacture is injection molding, in which the material is injected – in molten form – into a mold, the interior of

which is shaped to be a positive of the object. In either case, the holding member 301 is molded such that the interior of the U-shape is such that it forms the negative image of the firearm.

The holding member 301 may include a notch aperture 309 for accommodating the sight of a gun. The holding member 301 may also include first and second guard members 310,311 for preventing objects from coming into contact with trigger and trigger guard of the firearm.

The holding member 301, being formed from a single piece of material, is folded so as to resemble a "U" shape, with the curved portion of the "U" running along the edge 312 of the holding member 301 in which the notch aperture 309 is located. The open portion 313 of the "U" runs along the rear of the holding member 301. The open portion 313 of the "U" accommodates the trigger guard of the firearm.

The open portion of the "U" is fastened or closed by at least one fastener, e.g. 314. The fasteners preferably comprise a screw 316 inserted into one half of the open end of the "U", represented here by guard member 310. A screw boss 317 is inserted into the other half of the open end of the "U", represented here by guard member 311. The screw 316 and boss 317 are then coupled together. A screw/boss assembly is preferred in that it is adjustable, depending upon the amount of friction desired by the user when drawing the firearm. Other means of fastening, including rivets, glues, hot melt joints, welds, adhesives, stitching, and epoxies, however, may also be substituted. Note also that the screw boss could be integral to the holding member, in that a hole and threads could be designed into the plastic of the holding member. One preferred embodiment of the holster assembly 300 includes two fasteners 314,315, such that the upper fastener 314 may be set to one tension level, while the lower fastener 315 may be set to a second tension level.

A bracing member, e.g. 318, is placed between the open halves of the "U" 310,311 so as to oppose the compressive forces of the screw 316 and boss 317. The bracing member 318 is preferably constructed of a soft rubber material so as to provide a relatively high frictional force against the open halves of the "U" 310,311.

The holding member 301 is coupled to a planar member 400. The planar member 400, affectionately known as a "paddle" is designed to fit inside a user's trousers. As such, the planar member 400 is preferably curved so as to accommodate a user's torso. As the holding member 301 is to be worn outside the trousers, the planar member 400 is preferably curved so as to be concave with respect to the user and convex with respect to the holding member 301.

The holding member 301 is coupled to the planar member by way of at least one fastener 401, wherein the at least one fastener is selected from the group consisting of screws, rivets, glues, hot melt joints, welds, adhesives, stitching, and epoxies. In this exemplary embodiment, the fastener 401 comprises a screw/boss assembly, and two screws/bosses are employed. The 5 curvature of the planar member 400, combined with the plurality of fasteners coupling the planar member 400 to the holding member 301, prevents the holster assembly 300 from rotating when worn by a user. This prevention of rotation, coupled with the molded shape of the holding member, ensures that the firearm stays safely within the holster, even if the user trips or falls.

Referring now to FIG. 4, illustrated therein is a rear, elevation view of the holster 10 assembly 300. This particular view offers a more detailed look at the planar member 400, including its curvature. The notched aperture 309 and the closed portion of the "U" 312 may be seen as well.

The holster assembly 300 includes a retaining member 403 extending from the holding member 301 towards the planar member 400. The retaining member 403 protrudes in a 15 perpendicular manner from the holding member 301, preferably at an angle between 85 and 95 degrees with respect to the holding member 301. As such that the planar member 400, holding member 301 and retaining member 403 form a closed loop through which a belt may be passed.

While the retaining member 403 may be as simple as a vertical protrusion extending from the holding member 301, in the embodiment shown, the retaining member 403 comprises three 20 sections: a base section 404, a frictional section 405 and a coupling section 406. The base section 404 is formed of the plastic material comprising the holding member 301, and may include threads for receiving a screw. The base section 404 may alternatively comprise a screw boss 411 that is inserted into the holding member 301 through an aperture in the base section 404.

The frictional section 405 is a means for creating friction between the holster assembly 25 300 and the user's belt or clothing, and is preferably made from a soft rubber. The soft rubber takes the form of a grommet that encircles the retaining member 403.

The frictional section 405, in addition to offering compliance between the base section and the coupling section 406, provides a frictional force that causes the holster assembly 300 to "cling" to a belt. In so doing, the frictional section 405 prevents a thief or criminal from pulling 30 the holster assembly from a user's personage. The frictional section 405 also prevents the holster assembly from falling off the user's personage in the event that the user fell. The holding section

406 preferably comprises a screw, in that the screw may be adjusted relative to the base section 404.

The planar member 400 includes a curved arm 407 disposed between the fasteners and the curved portion of the planar member. The curved arm 407 acts as a retaining mechanism in 5 that it supplies a preloading force by way of a cantilever arm between the planar member 400 and the retaining member 403. This preloading force ensures that the planar member 400 is securely pressing against the retaining member 403 when the holster assembly 300 is at rest.

The holster assembly 300 offers several advantages over the prior art, the foremost of which is easy coupling to a belt. As the retaining member 403 is coupled to the holding member 10 301, the inner surface 408 of the planar member 408 is smooth and barb free. Notice that the planar member, looking from the top down, extends beyond the retaining member 403 at segment 409.

To put on the holster assembly, the user simply inserts segment 409 in to the top edge of the trousers. The user then gently pulls the bottom 410 of the holding member 301 away from the 15 planar member 400. This causes the flexible, cantilever arm formed by the planar member 400 with respect to the holding member 301 to actuate or bend, thereby creating space between the retaining member 403 and the planar member 300. This space allows the user to slide the holster assembly 300 down, thereby slipping the retaining member 403 over a belt. By releasing the bottom 410 of the holding member 301, the loop formed by the holding member 301, the 20 retaining member 403 and the planar member 400 once again closes, thereby securely coupling the holster assembly 300 to the user. As such, a user need not unbuckle the belt to put on and take off the holster assembly 300.

Referring now to FIG. 5, illustrated therein is an alternate embodiment of the invention. This embodiment is similar to that shown in FIG. 4, except for the fact that an added latch 25 member 500 has been added. The latch member 500 offers a back-up mechanism to ensure that the holster assembly 501 stays coupled to the belt. The latch member 500 extends from the holding member 301 towards the planar member 400. The latch member, however, extends slightly beyond the retaining member 403, preferably between 1/128<sup>th</sup> and 1/4 of an inch beyond the retaining member 403. In the event that the retaining member 403 fails, the latch member 500 30 offers a secondary means of grabbing the belt of a user, thereby preventing the holster assembly 501 from decoupling from the user's personage.

Referring now to FIG. 6, illustrated therein is one application of a holster assembly in accordance with the invention. Shown in FIG. 6 is a firearm assembly 600 comprising a firearm 601 and a holster 602. The holster 601 is the holster assembly of FIG. 3, and includes the planar member 400, the holding member 301 and the retaining member (shown in FIG. 4). As with FIG. 5, the retaining member extends from the holding member 301 towards the planar member 400 such that the planar member 400, the holding member 301 and retaining member form a closed loop. A belt 603 passes through this loop, and is positioned within the space circumscribed by the planar member, the holding member and the retaining member. Note that the holster assembly of FIG. 5 could equally be used. If so, the holster assembly would include the latch member as described above.

While the preferred embodiments of the invention have been illustrated and described, it is clear that the invention is not so limited. Numerous modifications, changes, variations, substitutions, and equivalents will occur to those skilled in the art without departing from the spirit and scope of the present invention as defined by the following claims. For example, while the embodiments recited herein have related to firearms, it will be clear that the holster mechanism could be used to hold other objects, including cellular telephones, tools, or portable electronic devices.